

Patent claims

1. Method for the automatic configuration of a communications device (TP1) with a reserved identification number, with

- at least one network node device (ROU1), by which a
5 subnetwork of a network (LAN) is administered,
- at least one virtual network (VLAN1), comprising at least one subnetwork, to which the communications device (TP1) is assigned, with data packets exchanged within the virtual network (VLAN1) being tagged with the reserved
10 identification number,

comprising the following steps:

- Determination of information addressing the subnetwork by a network element (DA) arranged in the network (LAN),
- Transfer of a set configuration message with the
15 information addressing the subnetwork from the network element (DA) to the network node device (ROU1),
- Forwarding to the virtual network (VLAN1) of the configuration message from the network node device (ROU1) as a broadcast message tagged with the reserved
20 identification number,
- Receipt of the broadcast message by a communications device (TP1) and configuration of the communications device (TP1) on the basis of the identification number.

2. Method in accordance with claim 1,

25 characterized in that

the network node device (ROU1) is embodied as a router.

3. Method in accordance with one of the claims 1 or 2,

characterized in that

the information addressing the subnetwork is present as a
30 directed broadcast address.

4. Method in accordance with one of the claims 1 or 2,

characterized in that,
the information addressing the subnetwork is present as network
address and network mask.

5. Method according to one of the previous claims
5 characterized in that,
a layer-2 network node device (LSW1) is arranged between the
network node device (ROU1) and the subnetwork administered by
the network node device (ROU1).

6. Method in accordance with claim 5,
10 characterized in that,
data packets sent by the network elements (TP1) arranged in the
subnetwork are only forwarded via the layer-2 network node
device (LSW1) if the data packets
- are tagged with the reserved identification number,
15 or
- are untagged.

7. Method in accordance with one of the claims 5 or 6,
characterized in that,
the layer-2 network node device (LSW1) features a number of
20 access units (P1, P2, P3, P4) for definition of a number of
virtual networks (VLAN1) each with assigned identification
numbers.

8. Method according to one of the previous claims
characterized in that,
25 the identification number is entered in a protocol header of
the broadcast message in accordance with the IEEE 802.1Q
Standard.

9. Method according to one of the previous claims
characterized in that,
30 the identification number is entered into a data part of the

configuration message created by the network element (DA).

10. Method according to one of the previous claims characterized in that,
the configuration message is sent at intervals.

- 5 11. Method according to one of the previous claims characterized in that,
on failure of the network element (DA) of the communications device (TP1) a message is sent with a tag number to a second network element (AS), with
- 10 - in the case of no response message being received by the second network element (AS), the send process is repeated by the communications device (TP1) with a changed tag number, and,
- in the case in which a response message is received by the
15 second network element (AS), the tag number is used as the identification number.

12. Method according to one of the previous claims characterized in that,
the identification number is used in the communications device
20 (TP1) for configuration of a VLAN ID characterizing the virtual network (VLAN1).